# Construction of remote monitoring system of children with tall or short stature and overweight or poor weight gain from the elementary school health checkup data.

P2-521 **P2-T** 13:00 - 14:00
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☑ I declare that I have no potential conflict of interest.

## OBJECTIVES

To reveal how many children who have the extent physique problems from height and weight data obtained from school health check of the ward there are. To build a regional cooperation system not to miss the patients who hospital consultation from the onset becomes too late.

## METHODS

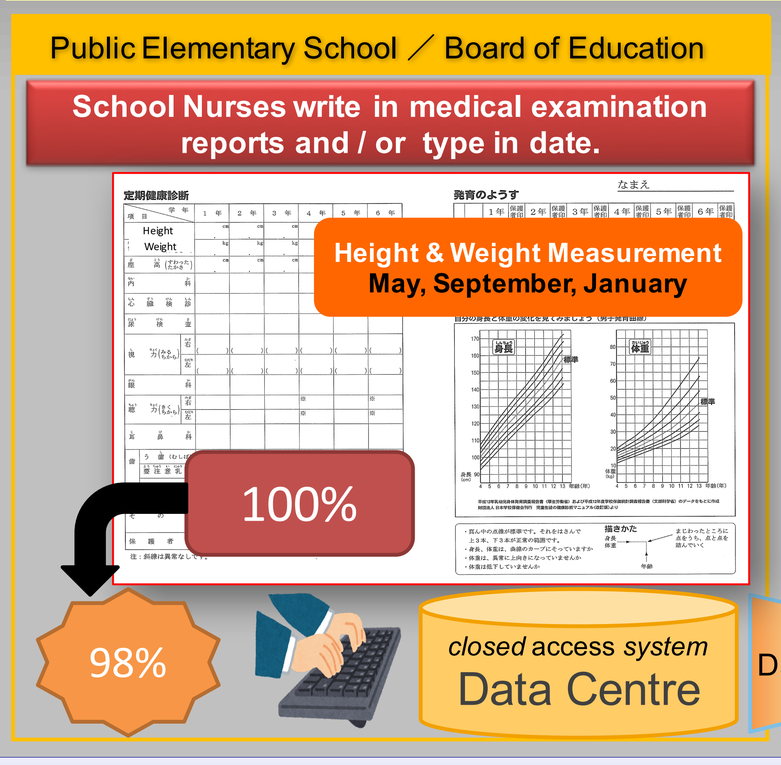



**Figure 1**

We analyzed the height and weight data which had been input to the academic affairs system and which were the total of 11 times in the school medical examination from September 2012 to April 2014. School nurse measures height and weight of students 3 times a year.

$$\text{Percentage of overweight (POW)} = \frac{[\text{measured weight}] - [\text{standard weight for height}]}{[\text{standard weight for height}]} \times 100(\%)$$

**+50% ≤ POW : severely obesity**
**+30% ≤ POW < +50% : moderately obesity**
**+20% ≤ POW < +30% : mildly obesity**
**-20% ≤ POW < +20% : health weight**
**POW < -20% : thinness**

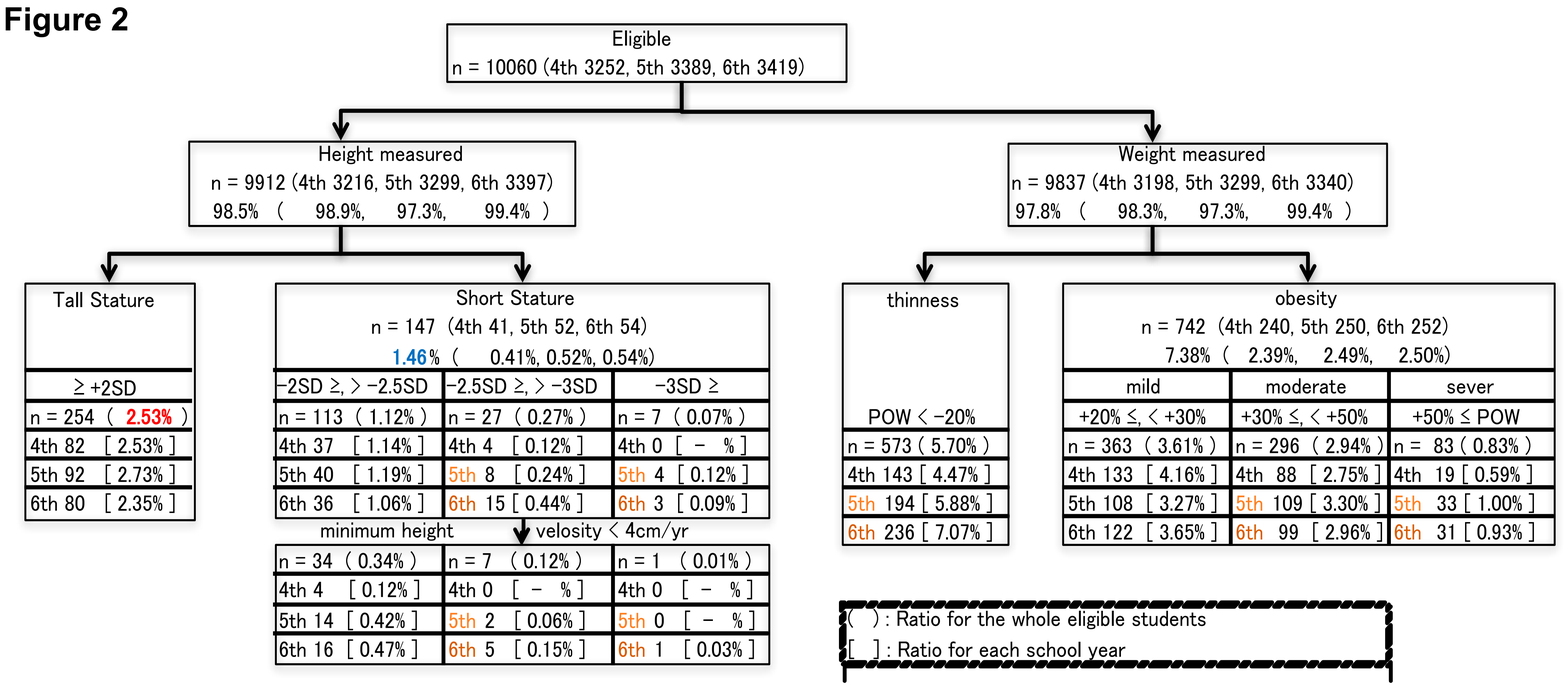
In Japan ordinary used to percentage of overweight rather than BMI percentile/Z-score. This is because it tends to be judged with a thinness in the low height children, on the other hands, and an obesity in the high height children by the BMI percentile method [I][II].

[standerd weight for height] = a × [measured height] +b

| male age | a | b | female age | a | b |
|---|---|---|---|---|---|
| 5 | 0.386 | -23.699 | 5 | 0.377 | -22.750 |
| 6 | 0.461 | -32.382 | 6 | 0.458 | -32.079 |
| 7 | 0.513 | -38.878 | 7 | 0.508 | -38.367 |
| 8 | 0.592 | -48.804 | 8 | 0.561 | -45.006 |
| 9 | 0.687 | -61.390 | 9 | 0.652 | -56.992 |
| 10 | 0.752 | -70.461 | 10 | 0.730 | -68.091 |
| 11 | 0.782 | -75.106 | 11 | 0.803 | -78.846 |
| 12 | 0.783 | -75.642 | 12 | 0.796 | -76.934 |
| 13 | 0.815 | -81.348 | 13 | 0.655 | -54.234 |
| 14 | 0.832 | -83.695 | 14 | 0.594 | -43.264 |
| 15 | 0.766 | -70.989 | 15 | 0.560 | -37.002 |
| 16 | 0.656 | -51.822 | 16 | 0.578 | -39.057 |
| 17 | 0.672 | -53.642 | 17 | 0.598 | -42.339 |

## RESULTS

**Figure 2**



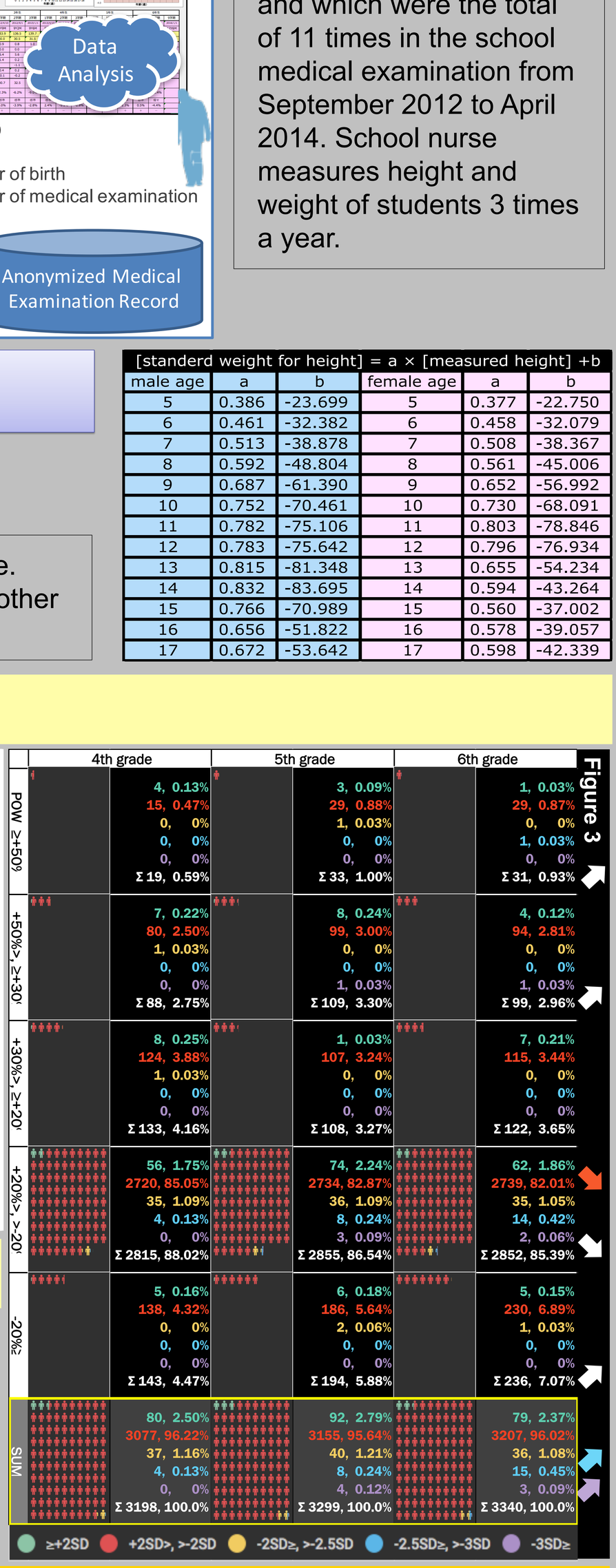




**Figure 3**

## CONCLUSIONS

Unlike the ratio of child of the high height, the ratio of low height child was about 1.4% and was not according to normal distribution. According to the school year it goes up, because the students that have problems in physique (thinness, obesity, short stature, poor height velocity) was observed tends to increase, there is a need for early intervention. Some reports show height screening is efficient economically [III].

## REFERENCES:

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II. Sugiura R, et al. Problems with body mass index as an index to evaluate physical status of children in puberty. Pediatr Int. 2011;53(5):634-42.
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